Chapter 5: Understanding Table Layouts and Data Analysis Tools

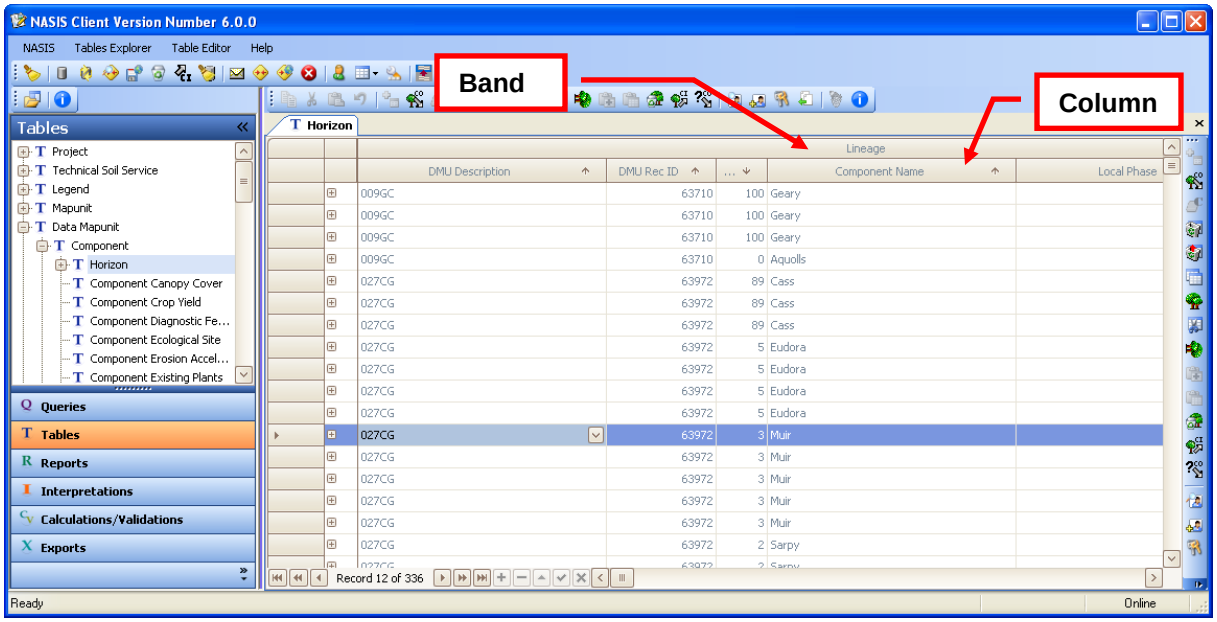
Contents

The following scenario demonstrates the various options and tools available for changing the table layout in order to analyze data. This scenario will use the Component Horizon table. To begin:

- Load any data into the selected set.
- In the Tables Explorer panel, click on the "+" (plus) to open the Data Mapunit tree
- Then click on the "+" (plus) to open the Component tree
- Then double click on the Horizon table to open this table into the Editor panel

Bands and Columns

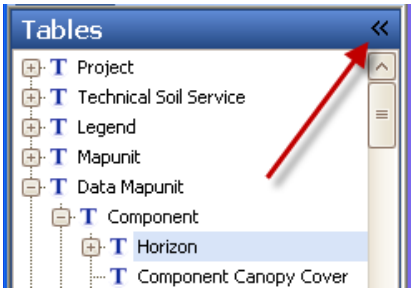
Tables have two rows in the header.
The first row displays "**Band**" names, and the second row displays "**Column**" names.

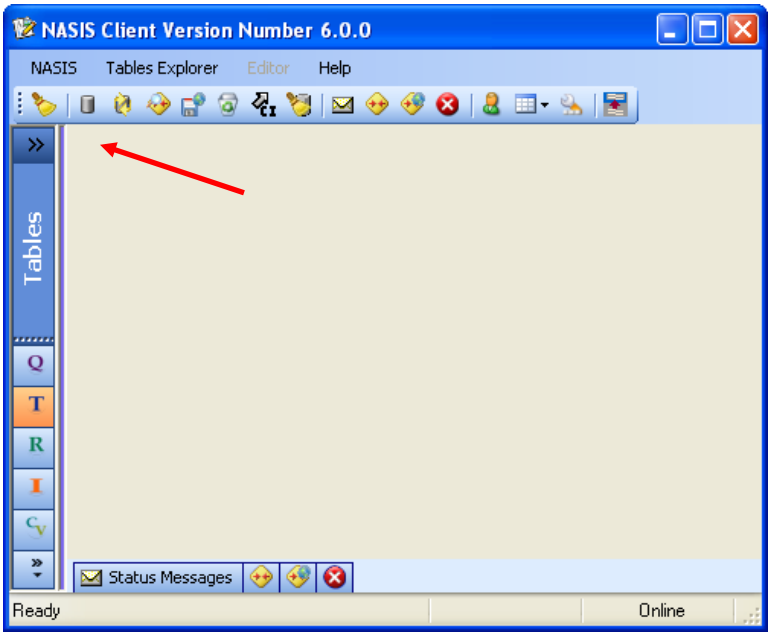


The Lineage “Band” is used to identify and locate the particular Horizon to its Component and the Component to its Data Mapunit record. The Horizon table “Lineage Band” includes the “Component Percentage”, “Component Name”, “Local Phase”, etc as “columns”.

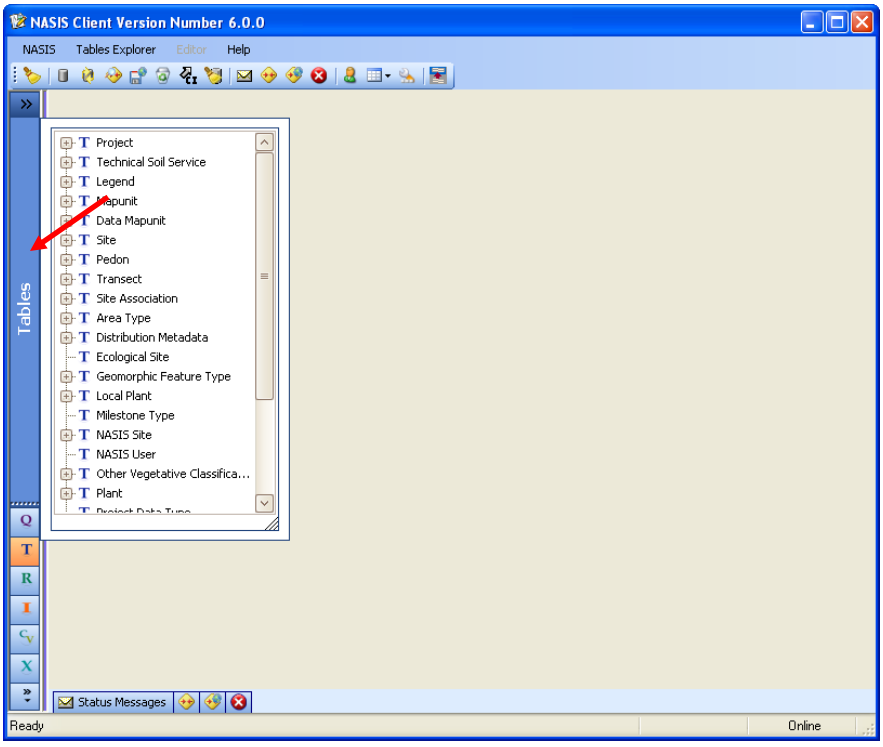
Hiding the Explorer Panel

To gain additional screen space, the double arrow icon in the upper right hand panel is used to hide the Explorer panel. Click on the icon "<<" in the upper right and panel corner to hide and the >> to unhide the Explorer panel:

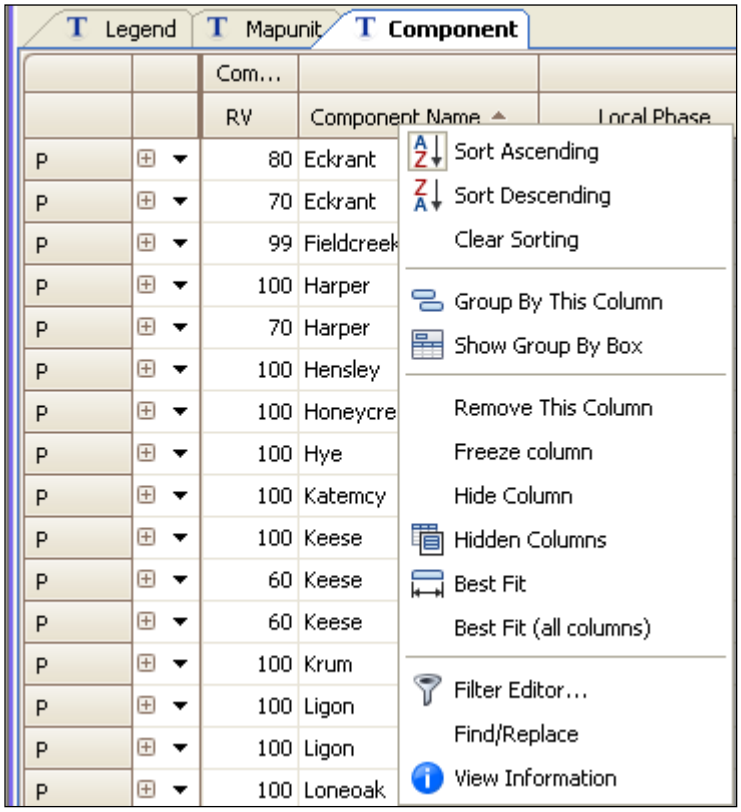




The information within the panel is easily accessed by clicking on the Explorer banner, in this case the Tables.



Right Click Menu



The following instructions will use the "right click" menu along with the icons available on each column header. The right click menu is accessed by right clicking the mouse on a column header.

Filtering and Sorting columns

Each column header contains two icons. The icon on the left (arrow) appears when the cursor is clicked in the header. The arrow will toggle to an ascending sort or a descending sort.

The icon on the right (funnel) appears when the cursor is placed on the header and sorts the data based on the column.

The "funnel" icon is used to filter the data based on the information within the particular column. Choosing the funnel brings a unique list of the items within that column that the user can choose to assign a filter.

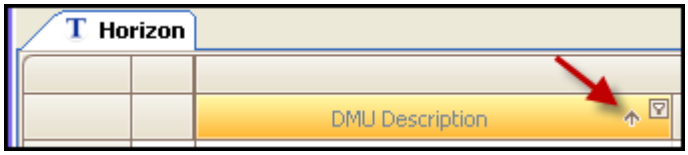
In addition to the icons on the column headers, the right click menu contains sorting and filtering choices.

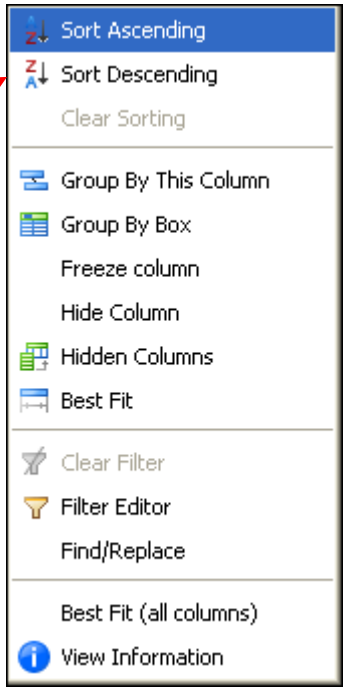
Sorting Columns

Sorting a table maintains all data within the selected set. No data is removed from the selected set. And editing action will affect those rows in the selected set that are “checked out” and editable. Sorting columns is a powerful analysis tool but the user must be aware of the selected set.

Single Column Sorting

The first method available to sort a column is to use the column header icon. This allows a sort based on the specific column. An icon is available on the column header. The sort order is identified by an arrow icon on the column header. Clicking on the column header once will sort the column in an ascending order with an up arrow icon. Clicking on the column header twice will sort the column in a descending order with a down arrow icon. The sort modifies the table based on the selected column.





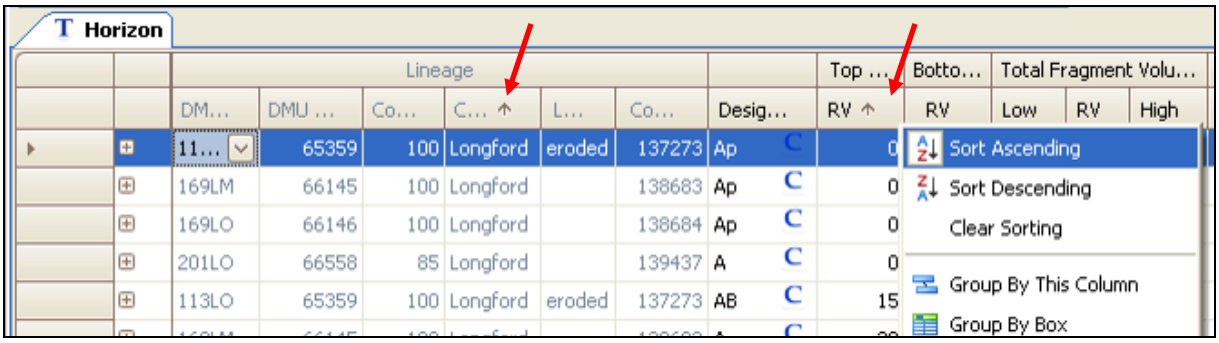
The second method available to sort a column is to use the right click menu. From the menu the user can choose whether the column is sorted in ascending or descending order.

These two methods will sort the table based on one column.

Multiple Column Sorting

There are instances when the user will wish to sort the table based on multiple columns and sorts. There are two methods to sort on multiple columns:

Using the right click menu, each column is chosen and the sort order is assigned, column by column. In this example, the Component Name column was chosen first and assigned a sort order of “Sort Ascending”. The Top Depth RV column was chosen second and assigned a sort order of “Sort Ascending”. The first sort is on Component Name and the second sort on Horizon Depth RV. Note the arrow icons remain visible on the sorted columns.



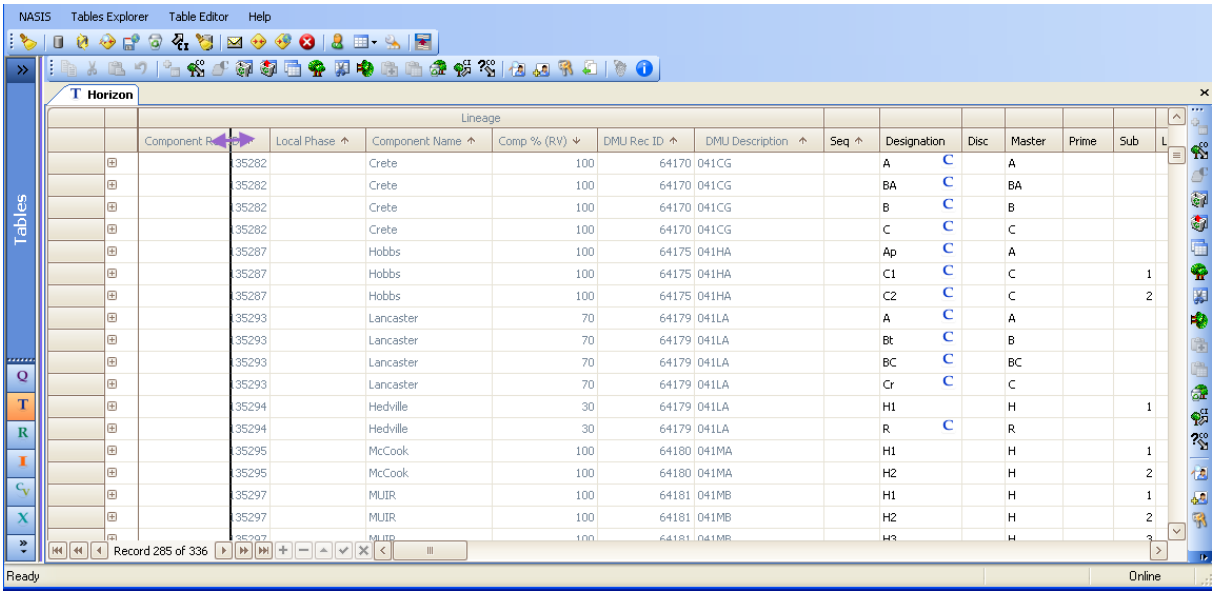
The second method of multiple column sorting is to use the **shift + click**. As previously stated, each column header has an arrow that can be clicked to sort. If the shift key is held down and column headers are continued to be clicked, then the multiple sort is based on the sequence of each clicked column and the sort order assigned to that column. The shift + click will sort the specific column clicked, unlike the shift + click on rows, this function does not highlight multiple columns. This method is difficult to capture as a screen shot but the results look similar to the screen shot above.

Clear sorting

The “Clear Sorting” command on the right click menu is used to clear column sorts.

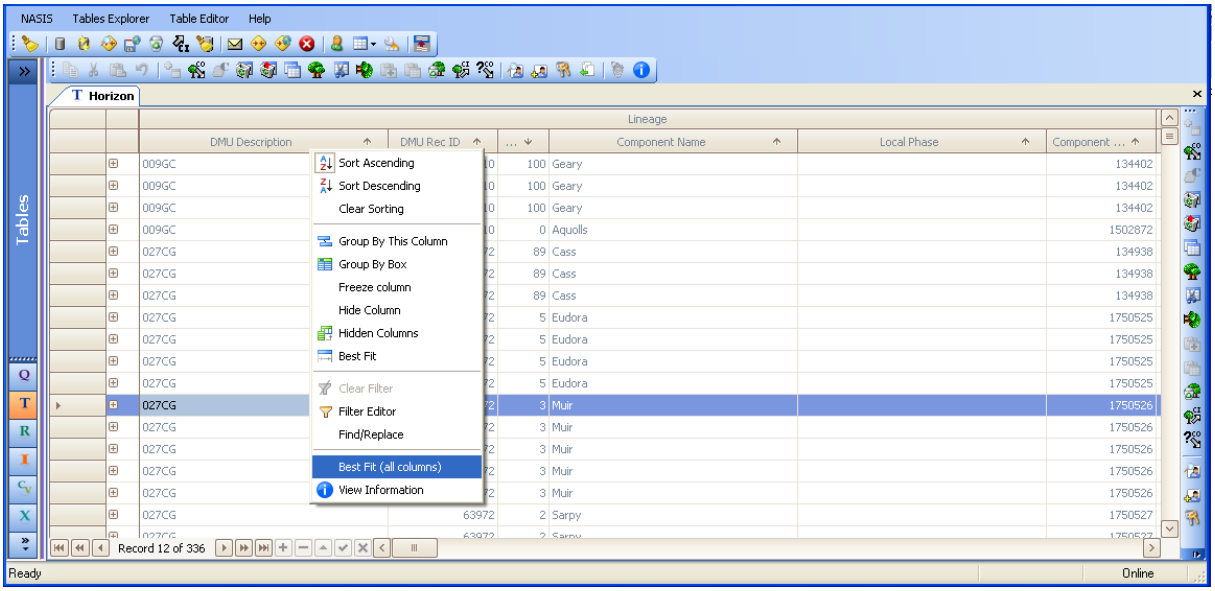
Resizing Columns

Each column in NASIS has a default width. However, columns can be manually resized by hovering the cursor between the column names until it becomes a double arrow cursor. Then click and drag the column to the desired width.

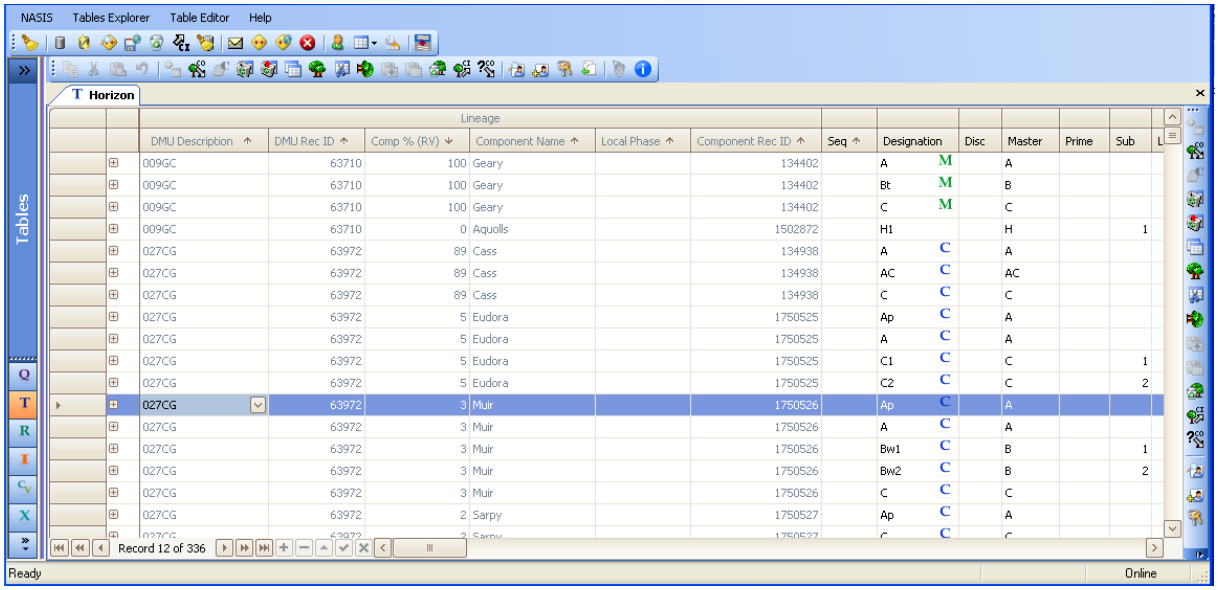


Best Fit Column

Columns can also be resized based on the information found in the column. On the right click menu there are two menu choices, “Best Fit” for the individual column and “Best Fit (all columns)” for all columns within the table:

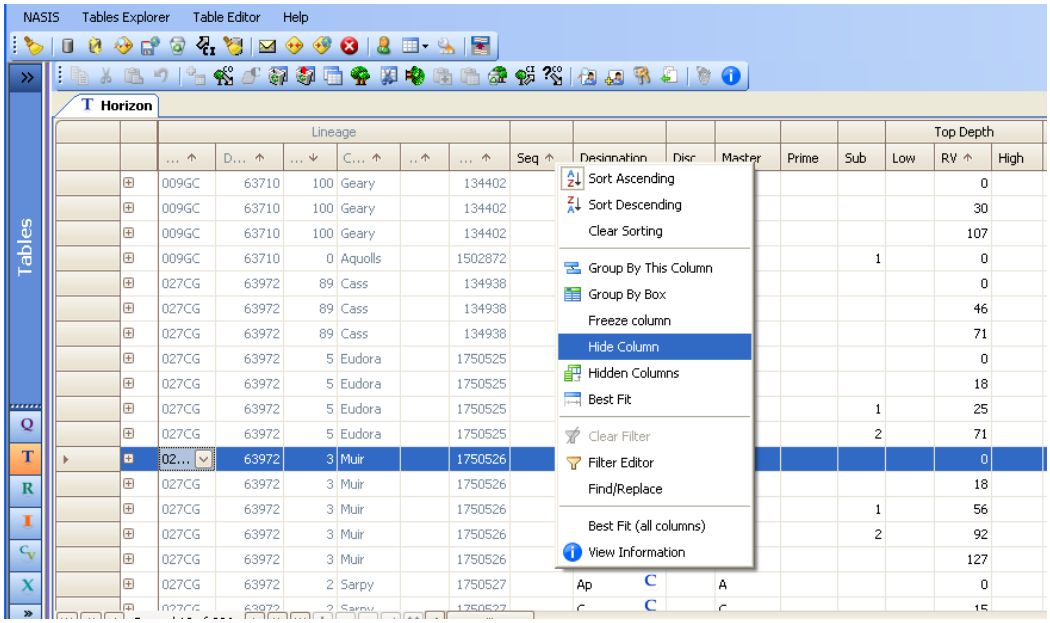


The result of “Best Fit (all columns)” is the collapse of all columns to the smallest width possible with readable column names.

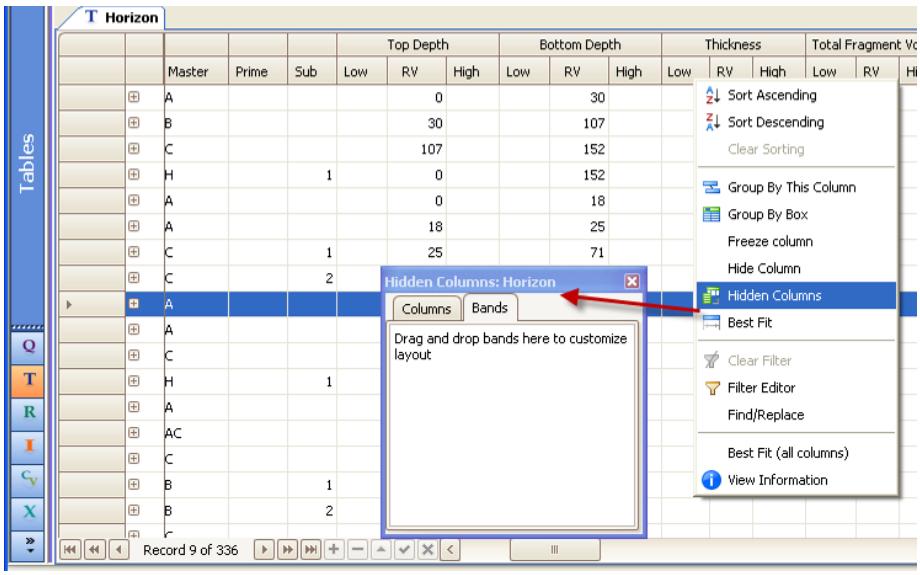


Hide Columns

Table columns can be hidden from the Editor panel, for example, the “Seq” column can be hidden. There are three methods of hiding a column. One method is to Right click on the column header and choose “Hide Column” from the right click menu.

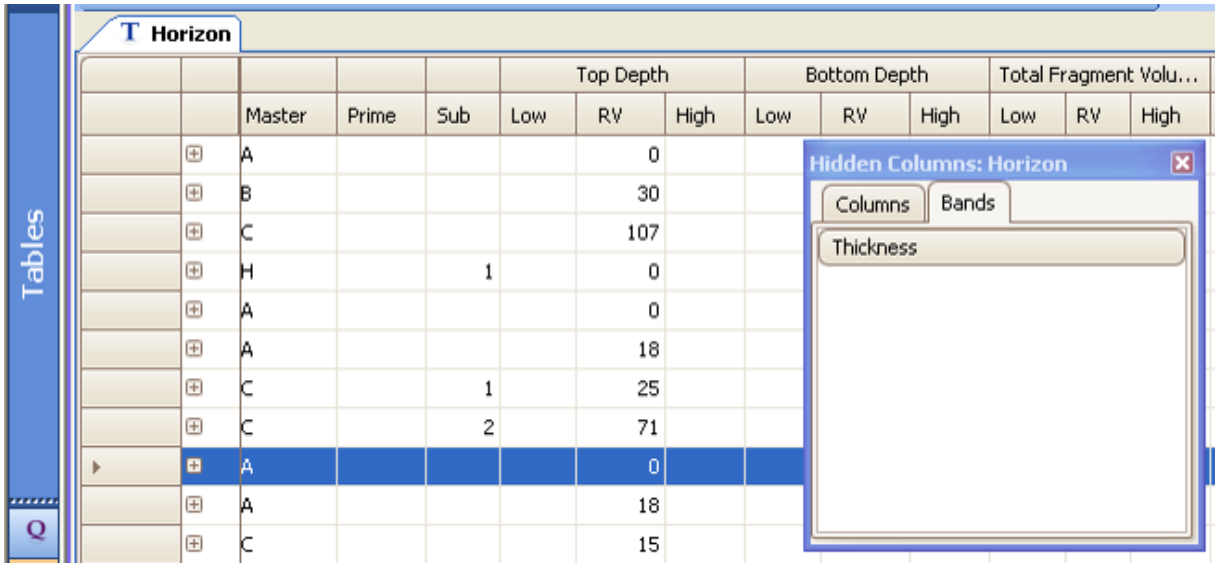


The second method is using “Drag and Drop into a hidden columns dialog box”. Bands and Columns can be hidden from the view by choosing the “Hidden Columns” from the shortcut menu. A “Hidden Columns” box will appear and columns or bands can then be Dragged and Dropped into the Hidden Columns “box”.

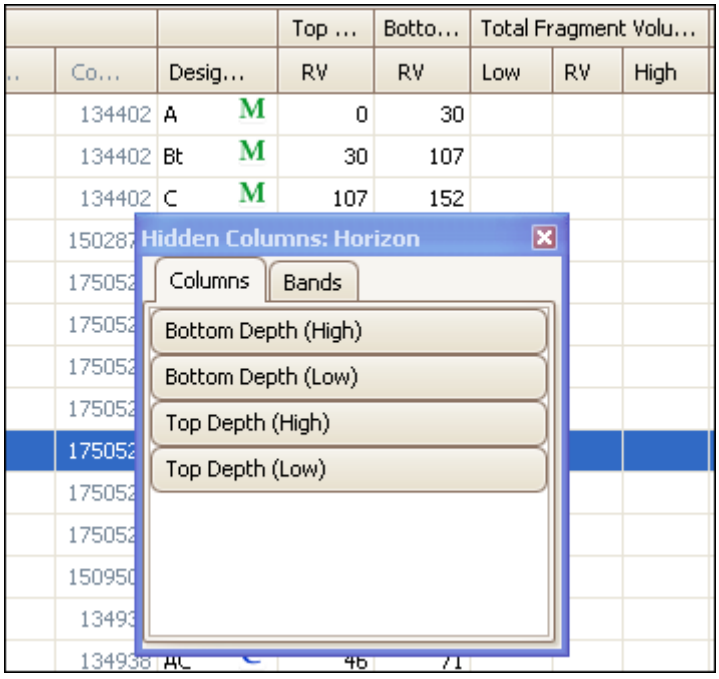


In this example the “Band” Thickness has three “Columns” – Low, RV and High. All three columns can be hidden by selecting the “Thickness” Band.

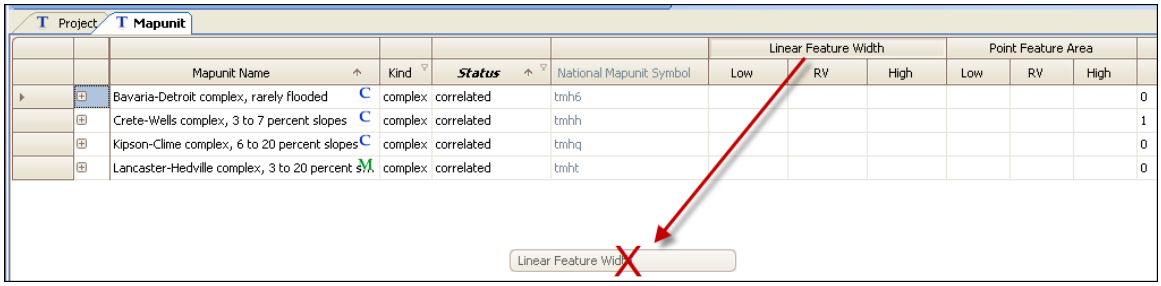
The result is that Thickness columns (Low, RV, high) will appear in the “Hidden Columns” box under the “Bands” tab.



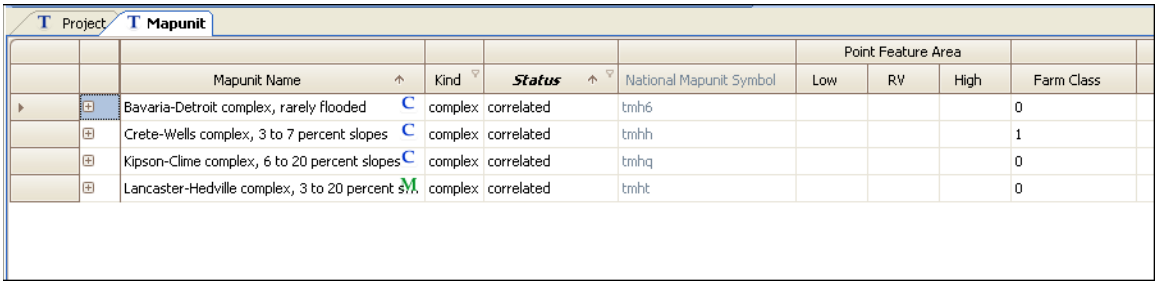
Columns and Bands are stored in the Hidden Columns box and can be returned to the Editor panel by selecting a Band or a Column from the Hidden Columns box and using Drag and Drop to return it to the Table in the Editor Panel.



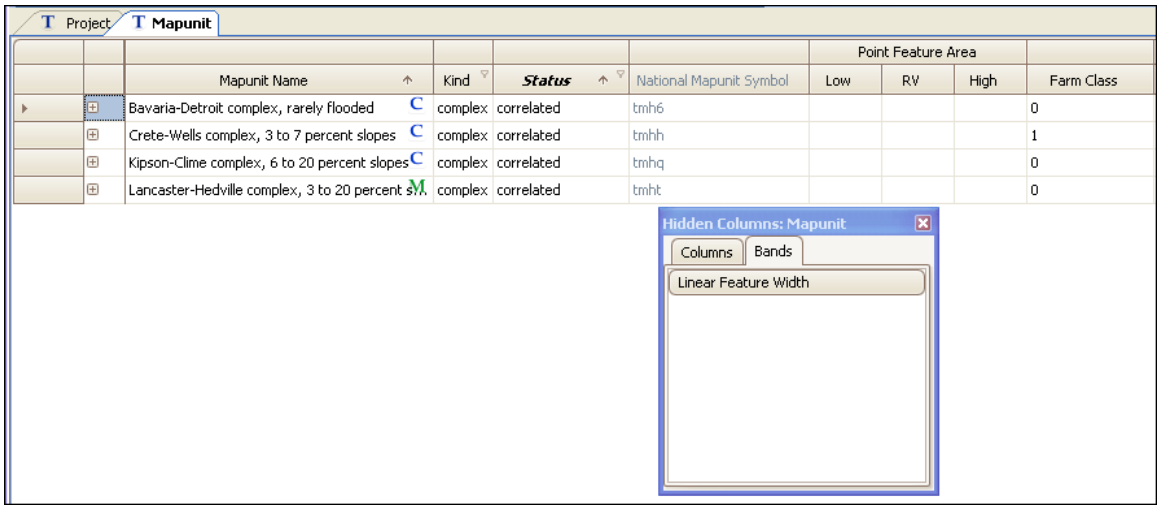
The third method is by dragging and dropping the Column or Band below the table header. For instance, the band "Linear Feature Width" is grabbed and drug below the header where an X appears denoting the table is hidden.



The result is:

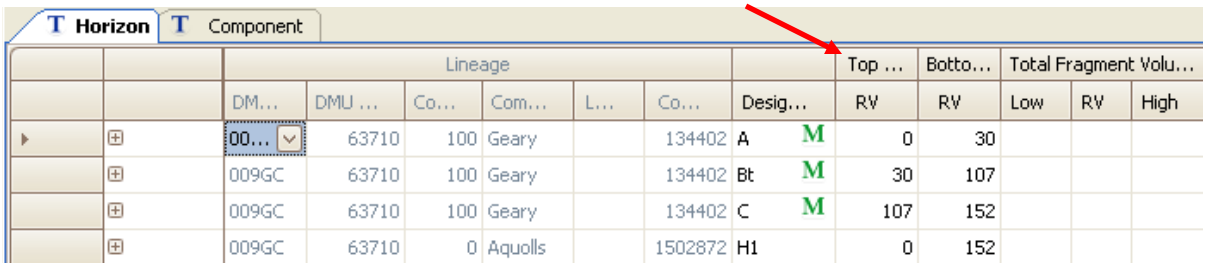


And the hidden band appears in the hidden columns/band box:

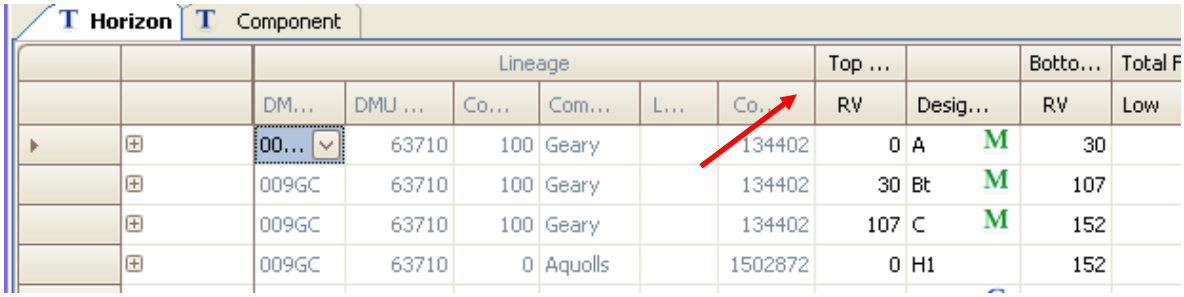


Moving Bands

A column can be moved to any location in the Editor panel. Columns are moved by clicking on the column and dragging it to a new location that meet user needs.

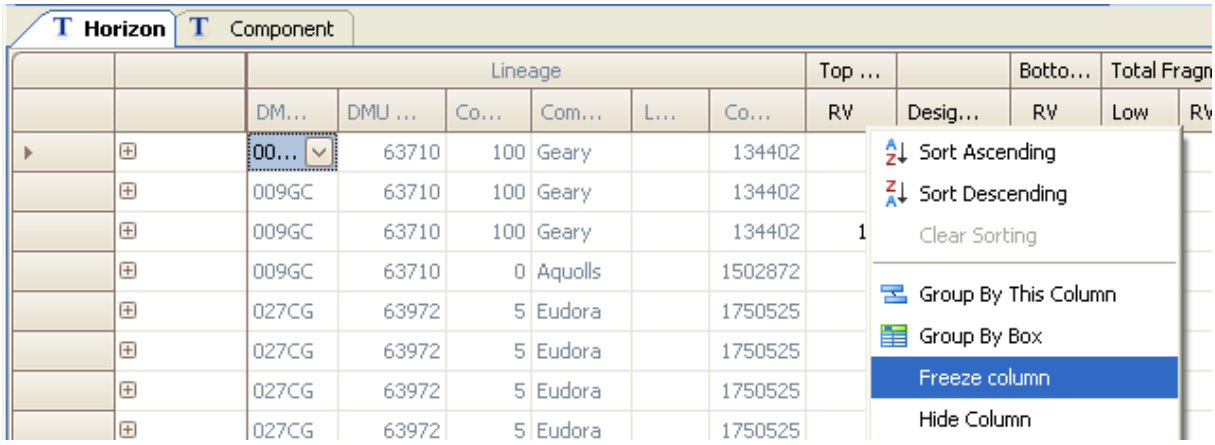


In this instance, the Top Depth RV is moved from the right of the Designation column to the left:

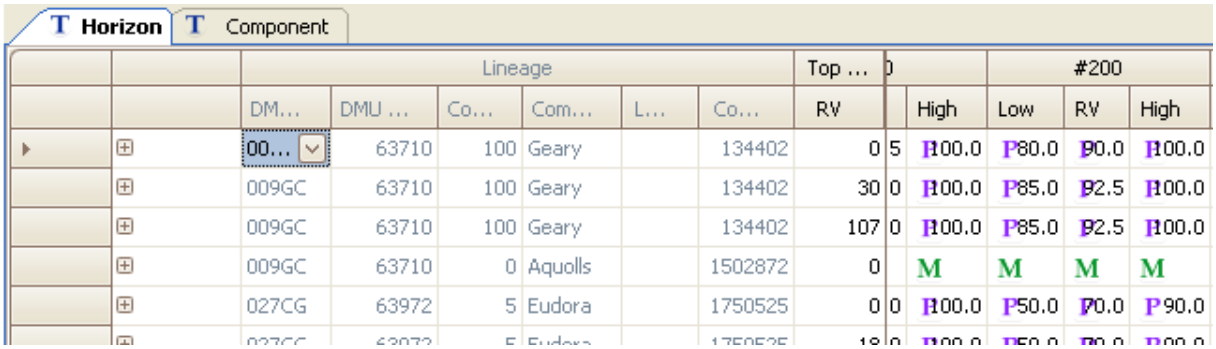


Freeze columns

A column can be “Frozen” allowing all other columns to the right of the “frozen column” to scroll. In this example, now that the Top Depth RV column has been moved to the left of Designation, the column can be frozen so that the scroll bar moves those columns that are to the right of Top Depth RV:

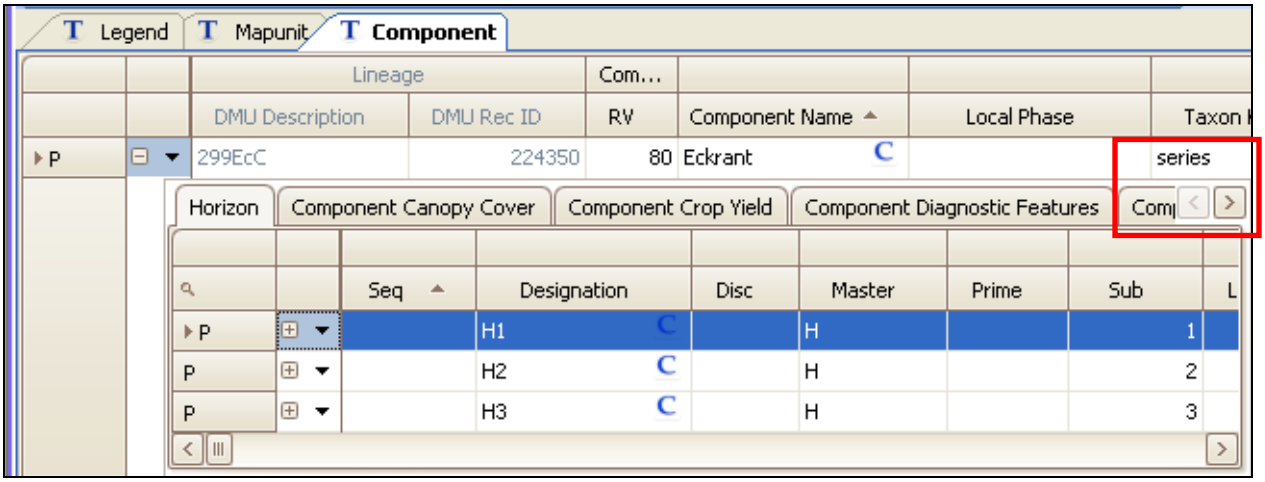


As the scroll bar is moved to the right, the Top Depth RV column remains on the left as the remaining columns to the right scroll.

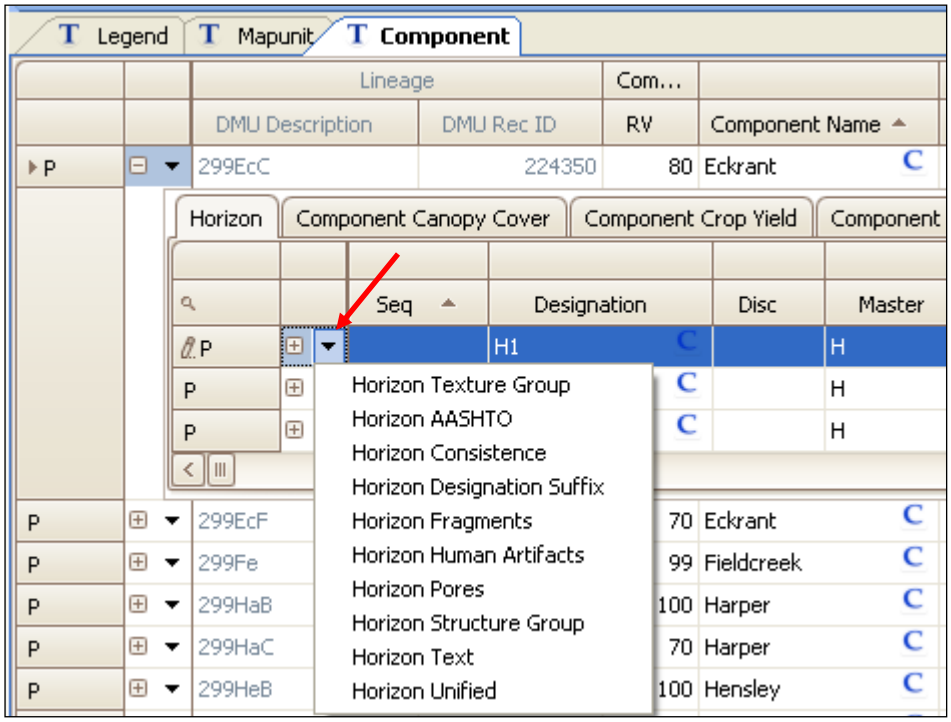


Navigating through child tables

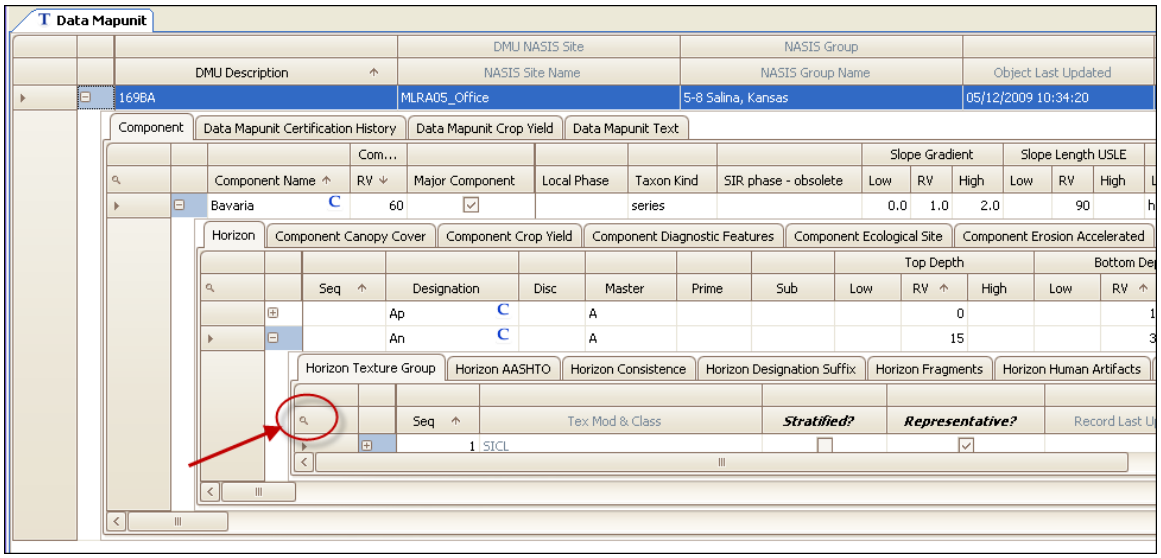
Several Parent tables have a number of child tables that do not fit neatly within the screen. Clicking on the tabs will allow the user to navigate between child tables. If more tables exist than can be shown on the screen, the double arrows will appear for navigating to additional child tables. Click on the left or right arrow to navigate to additional child tables.



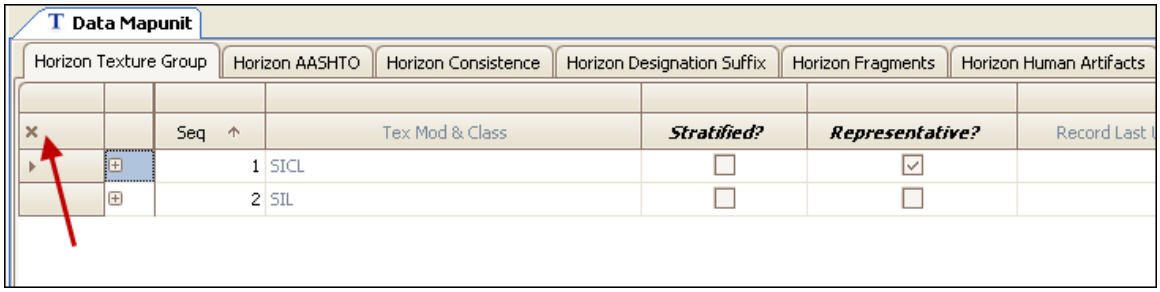
NASIS 6.1 introduced the Child Table Drop Down list to assist users in navigating to the specific child table. The triangle, to the right of the plus sign (+), opens a choice list for the tables within that Parent table.



Continuing to open child tables will eventually incur a limit of screen territory. When this occurs, scroll bars will appear as shown in the next image.



Notice that the review of the Horizon Texture Group table will require resizing the screen and moving scroll bars. The magnifier in the upper left hand corner is a feature allowing the child table to be promoted or temporarily expanded.



To return to the previous view, click on the **X**.

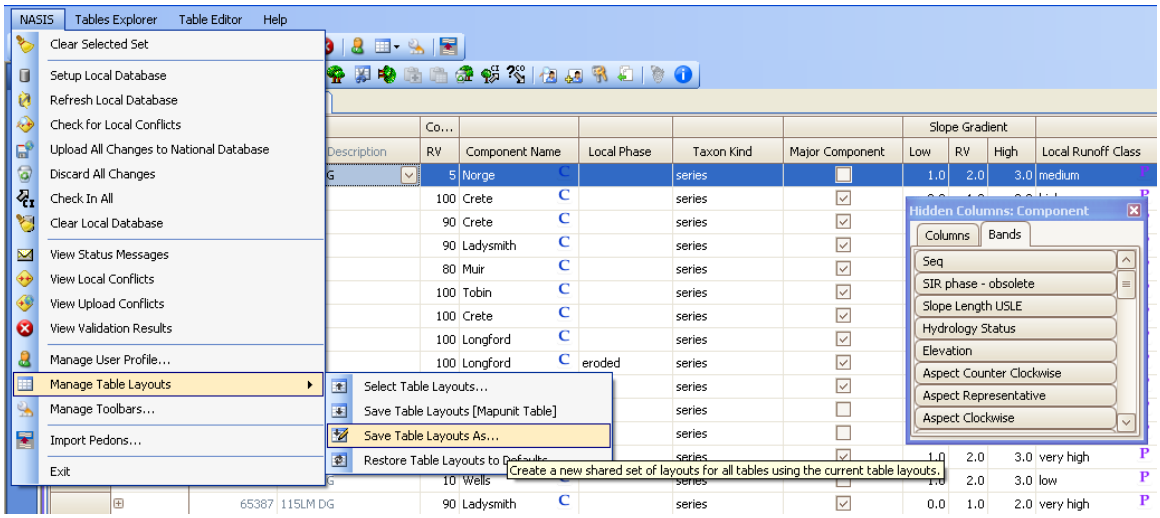
Examining a Table Layout

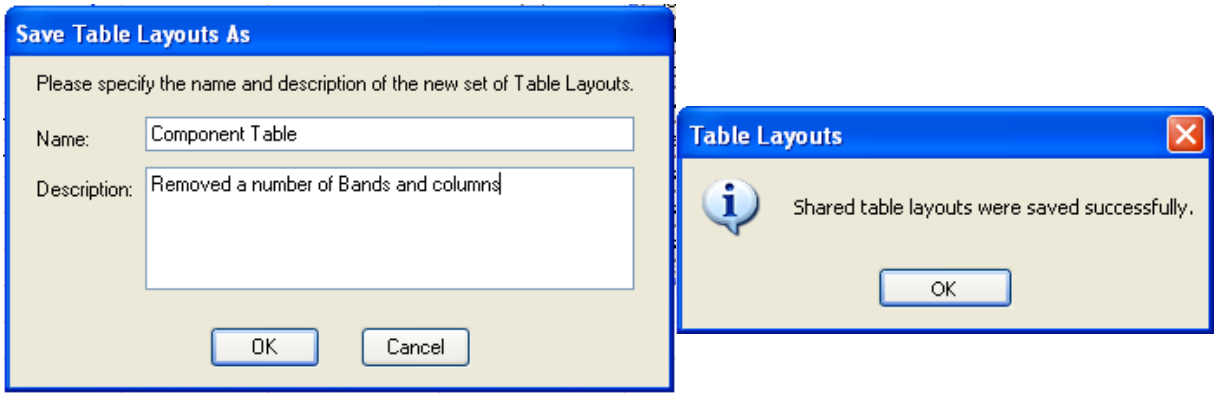
Many of the tables in NASIS contain more columns than can be viewed on the screen at the same time. Although scroll bars allow for vertical and horizontal movement, when viewing tables with numerous columns, such as the Component table, editing may involve scrolling between columns several times for each row that is edited.

Table layout allows the user to customize the table display in NASIS. Many of the principals discussed in the previous section can be saved as a “Table Layout”. Columns can be hidden from view, moved, or “frozen”. Columns can be sorted, filtered or grouped based on the user preferences. The user preference can be saved as a “Table Layout”. It is best to modify all tables before saving the table layout. The resulting Table Layout(s) can then be used for specific editing/analysis tasks.

Saving a Table Layout

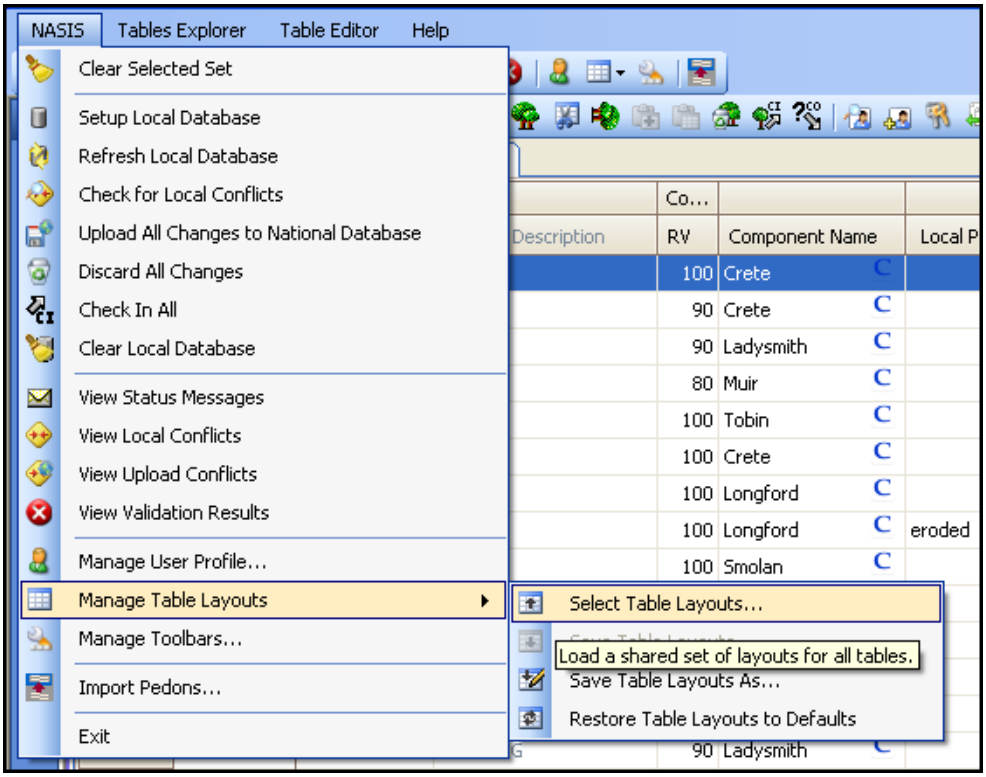
After the tables are modified, choose the “NASIS” menu then “Manage Table Layouts”. The user can then save the Table Layout and assign a name and description for the specific Table Layout.



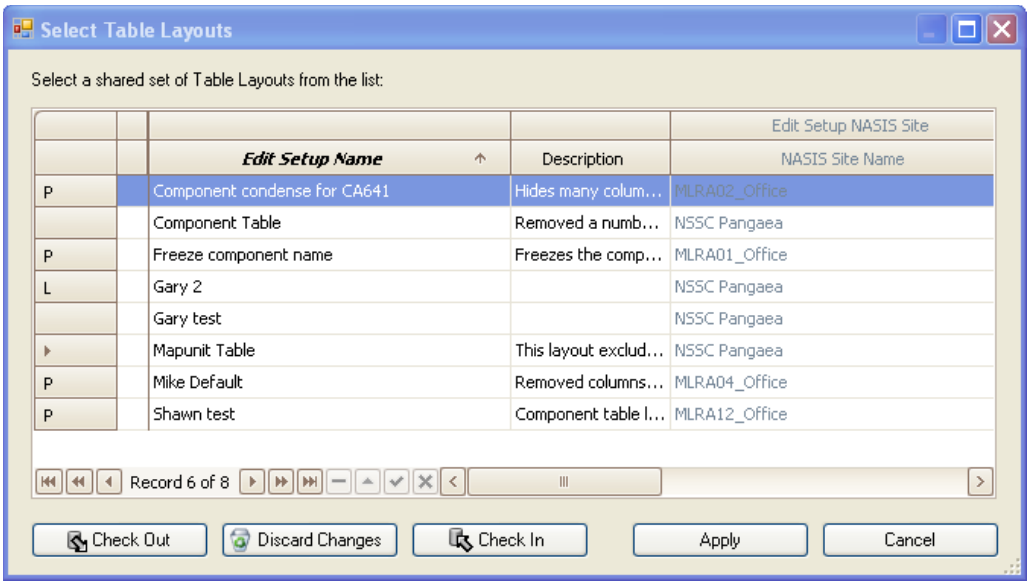


Selecting a Table Layout

Table layouts can be selected from the NASIS menu.

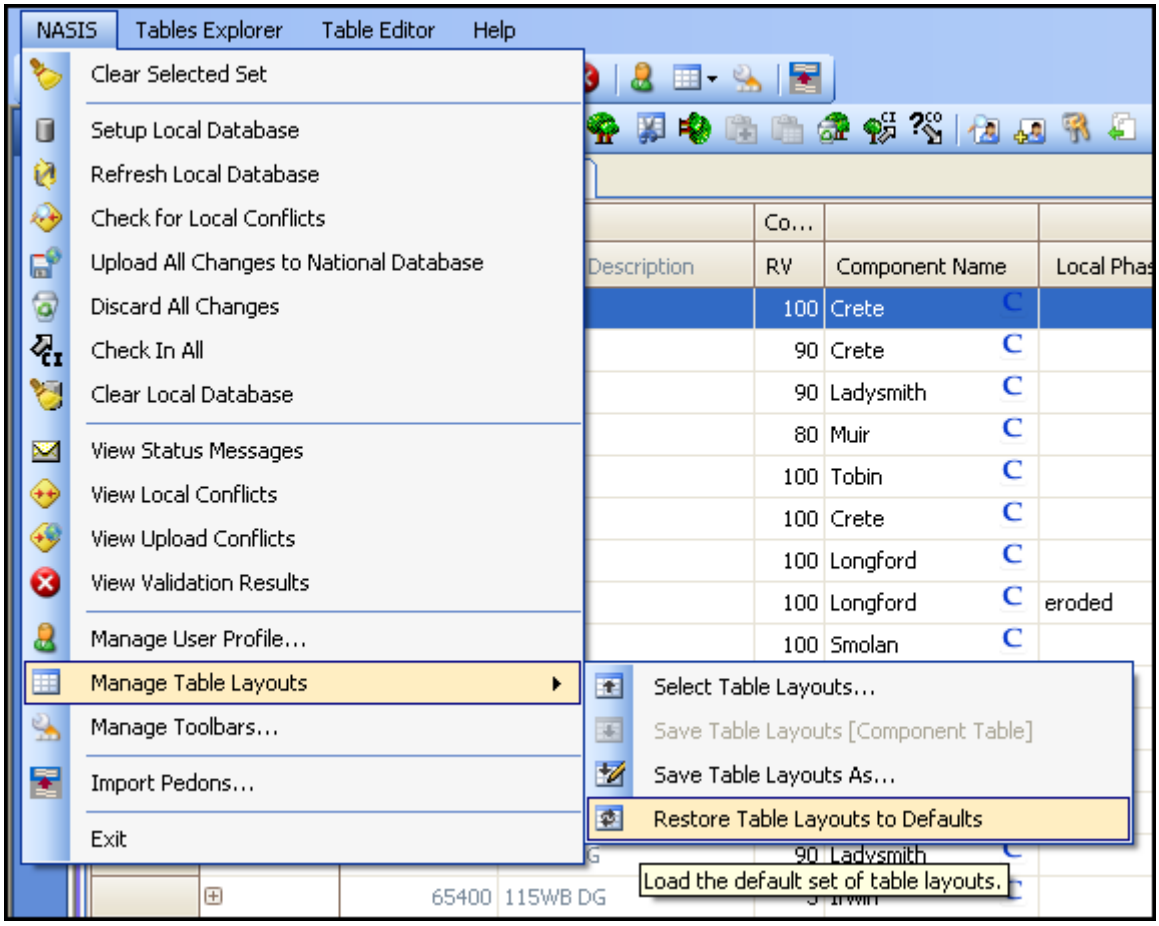


A parameter box will appear with the available Table Layouts sorted by the NASIS Site. Once saved, a Table layout is available to all users. Just like any other table, the Table Layouts columns can be sorted, filtered, or grouped based on user defined needs.



Restoring the default edit setup

The NASIS tables can be restored to the table default. NASIS provides a default setup to restore all tables to their original setup. From the NASIS menu, choose Manage Table Layouts and Restore Table Layouts to Default.

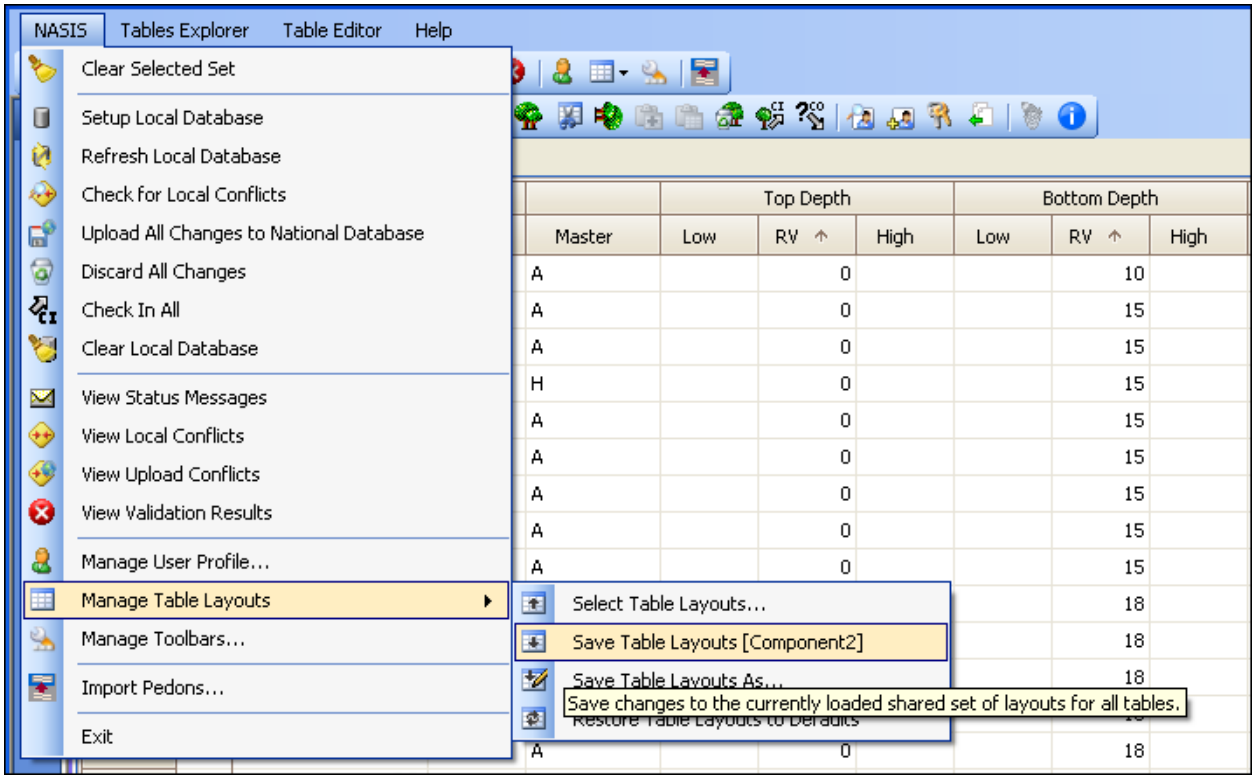


Modifying a Table Layout

There will be times in which the user will wish to add to an existing table layout. There is a specific process that must be followed.

If a Table Layout has been recently saved, but not “Checked In”, (e.g. Component2), then the steps include

1. If the user needs to modify a table that has already been modified, then from the NASIS menu, choose Manage Table Layouts and Restore Table Layouts to Default.
2. Return to the table and correct its modification.
3. Then move to another table (e.g. Horizon) and modify the table as desired.
4. From the NASIS menu, choose Manage Table Layouts and “Save Table Layouts [Layout name]”.

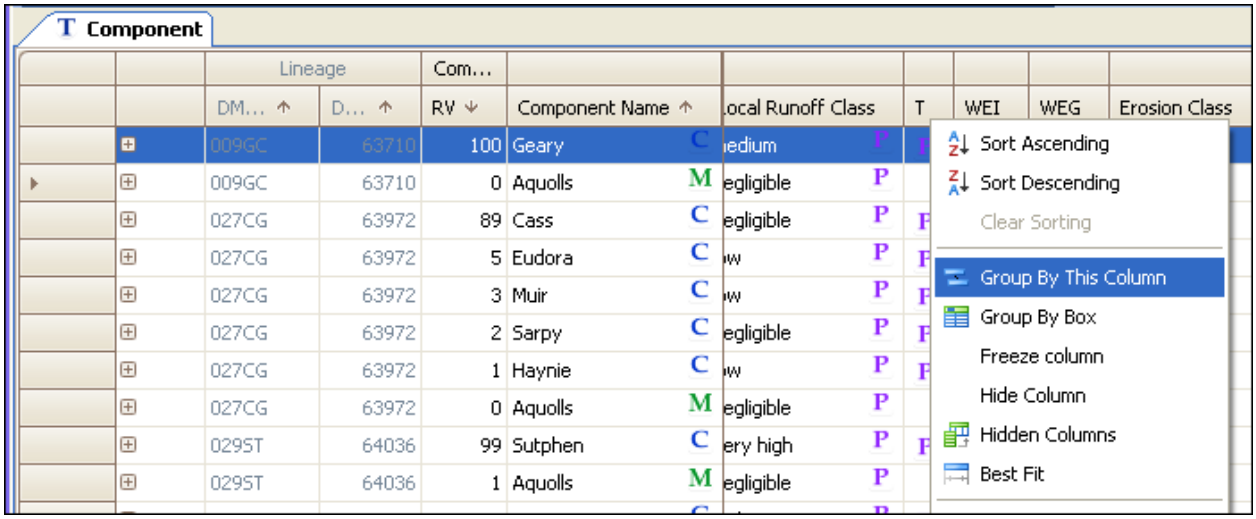


After a Table Layout has been “saved” and “Checked In”, in order to modify the Table Layout it must be checked out before editing.

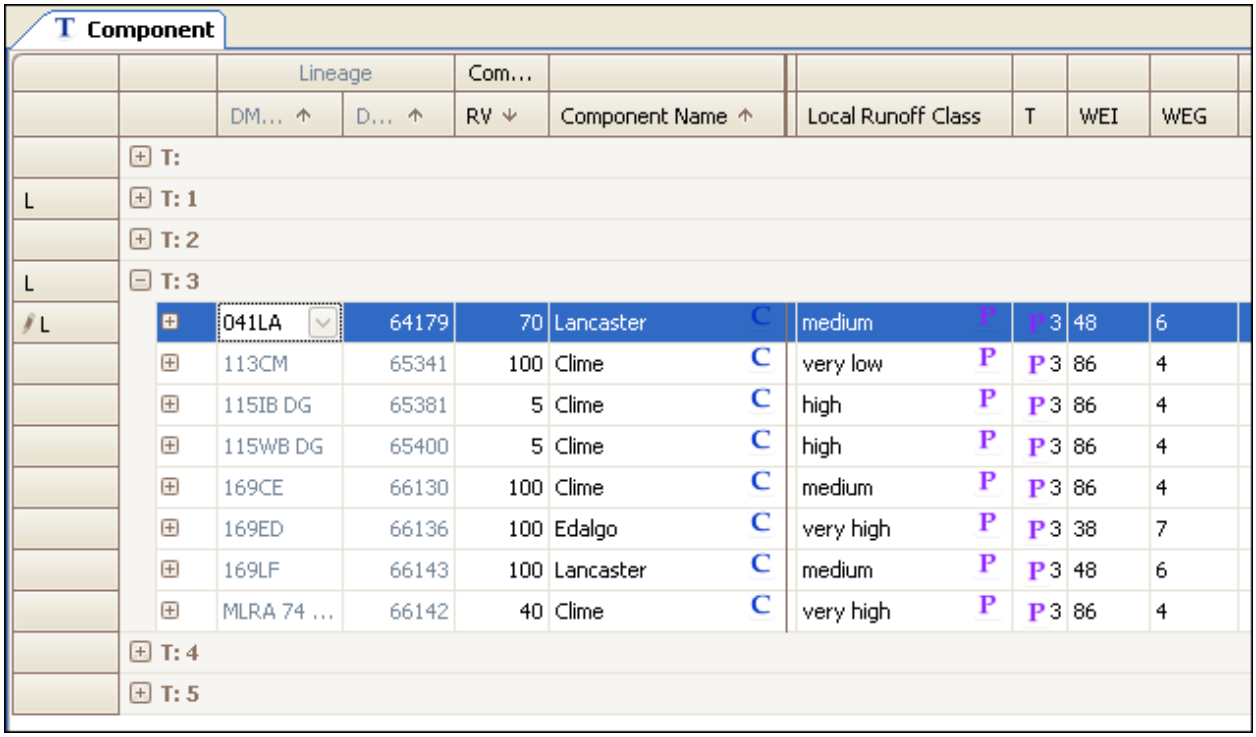
Analysis tools

Group By Columns

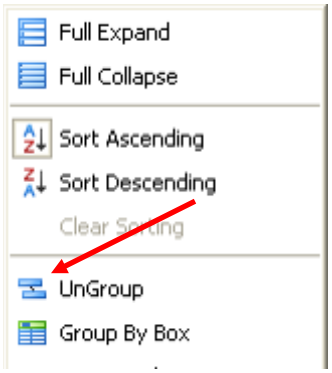
Columns within a table can be grouped for easier analysis. Right click on the “T” column in the Component table and select the “Group By This Column”.



The result is the data in the table is grouped by the T value column. Grouping of columns is a useful analysis tool. Data is not removed from the selected set, only grouped based on the user decisions. Care must be exercised when editing data that is grouped. Opening a “group” will feature those records within that specific group.

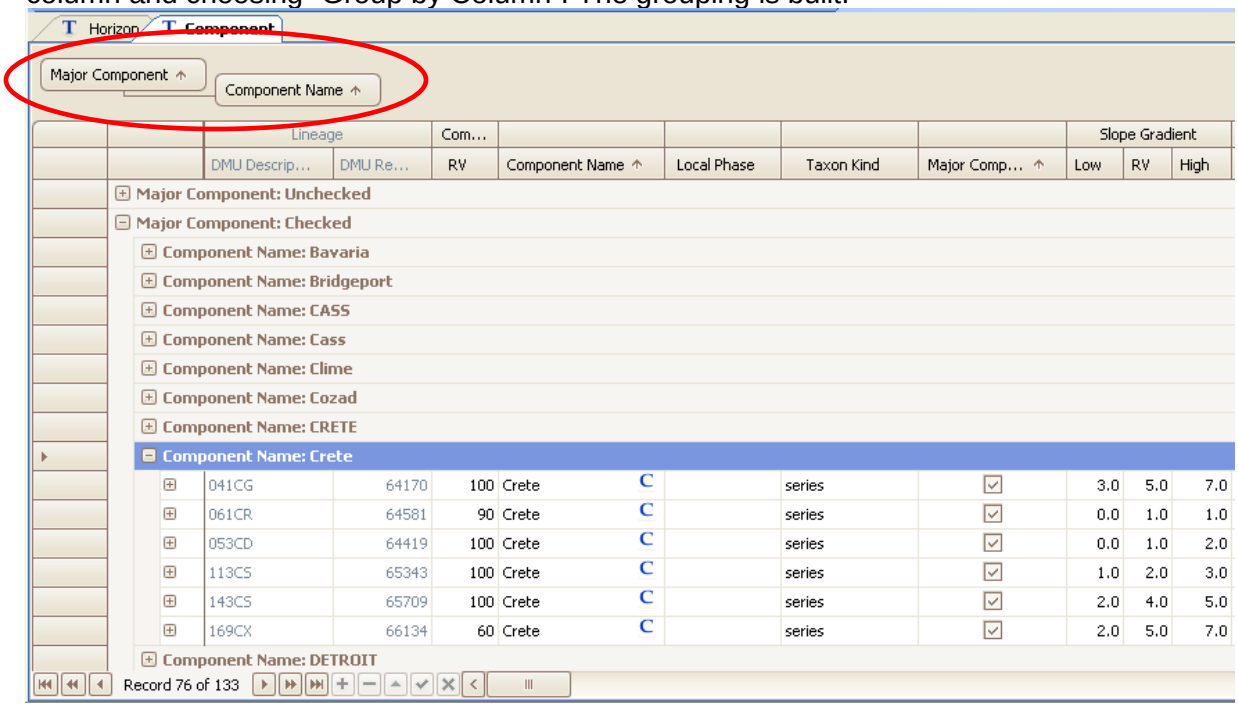


This grouping can be returned to normal by selecting the right click menu on the specific column and selecting “Ungroup”.



Group by Box

Choosing the “Group By Box” allows for multiple columns to be grouped. Notice the Group By Box opens a section above the table Band. Choose the grouping columns, by right clicking on a column and choosing “Group by Column”. The grouping is built.



In this example, the components are grouped by the major component column, first, then by the component name column, second. The image above identifies how the soils are grouped by major components and component name. The Crete soils are opened for review.

To return, right click on the “grouped” column(s) and choose **Ungroup**.

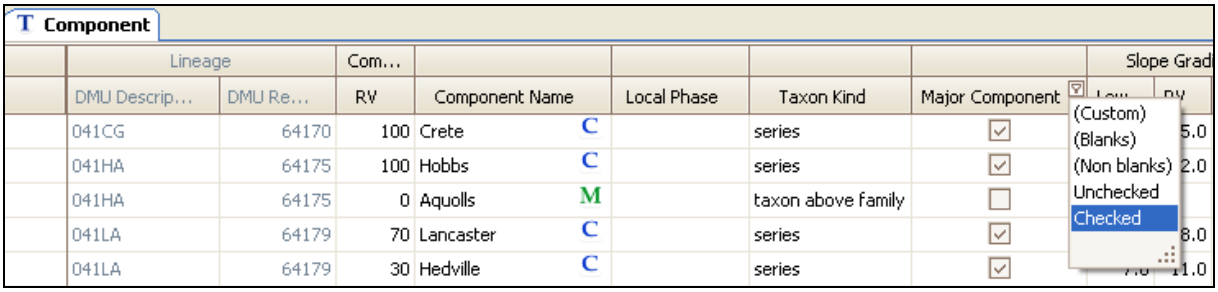
Filtering

Similar to the grouping of columns, filtering columns is also used for refining the selected set, however filtering will hide or, essentially, temporarily remove those records from the selected set that are not defined by the filter. Filtering is a very effective tool for the Find/Replace and Global editing function in NASIS 6.3. Records are returned to the selected set once the filter is edited or removed.

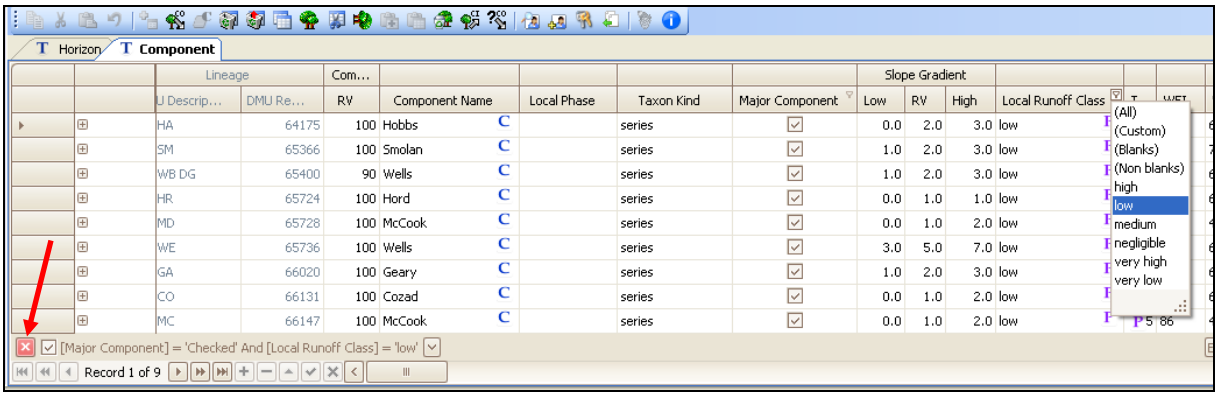
You can filter three different way:

1. clicking on the fiiter icon and selecting one value
2. using the auto filter and typing text into the filter field
3. and using the filter editor to build a complex filter

The filter icon and the auto filter both are quick way to adjust the filter editor. The filtering icon is a funnel that is located on the right of the column header. In the image below, the funnel on the Major Component column header is clicked and the choice list appears. These two functions are cumulative e.g. if you pick a single value with the funnel in one column and then open the auto filter and add text to a field in another column both filters will be applied to the editor.

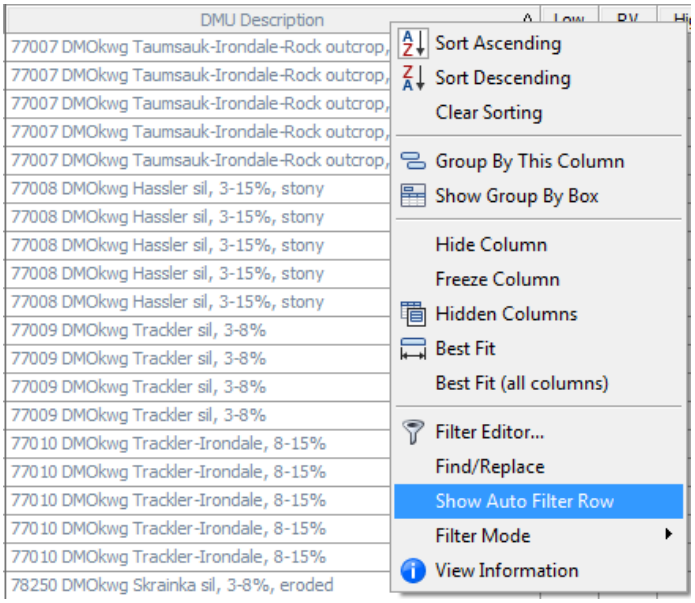


Selecting the “Local Runoff Class” column, choosing the filter on the column header, and choosing “Low” will add to the filter of the selected set. The selected set now includes only those “major components” that have a “Low” runoff class. The filter is recorded in the lower left hand corner of the edit panel.

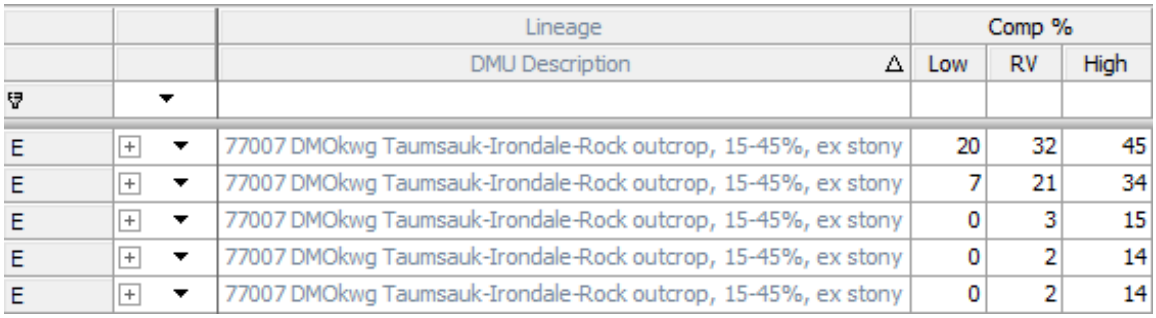


The filter is cleared by clicking on the red “X” in front of the filter.

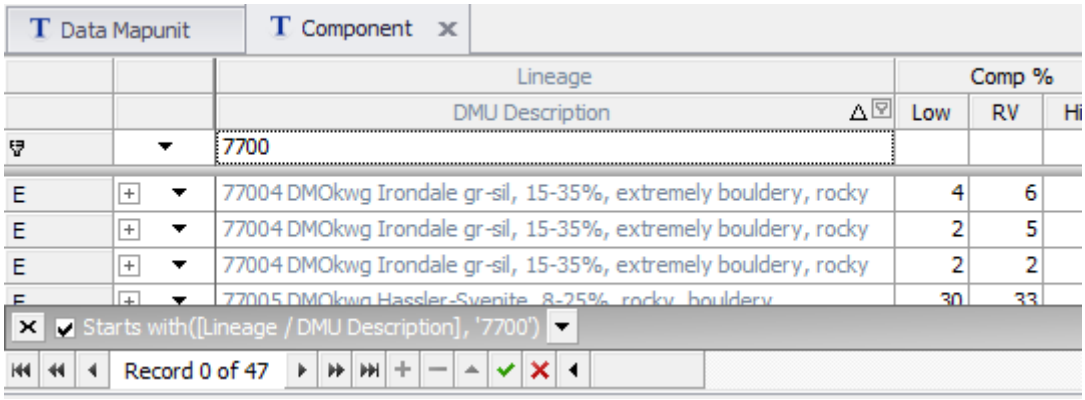
The auto filter can be opened by right clicking on the header column and selecting “Show Auto filter Row”.



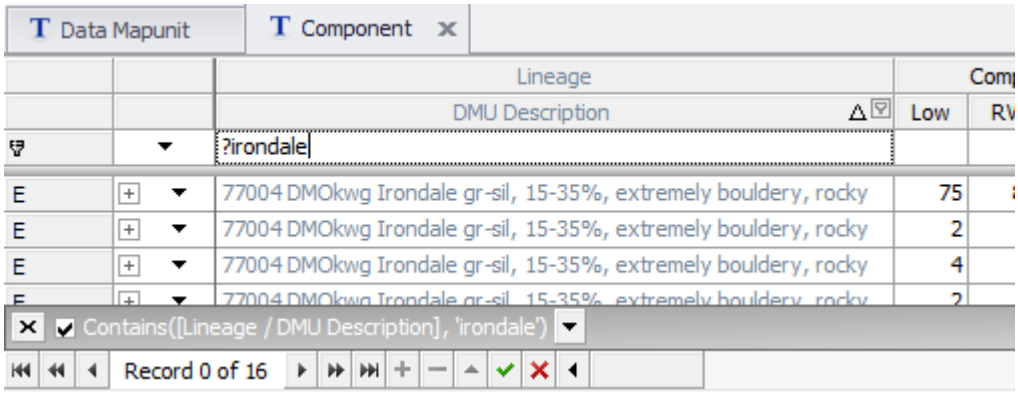
This will add a row at the top of the editor window. This filter system is really fast for text fields but is limited for numeric fields.



What ever you type into this field the text will be added to the filter with a “begins with clause” See example below.



If you start with any wildcard symbol in this field: question mark (?), astericks (*), percent sign (%) or underscore (_) the filter clause will be changed to “Contains”. Any row with any part of the text will be filtered.



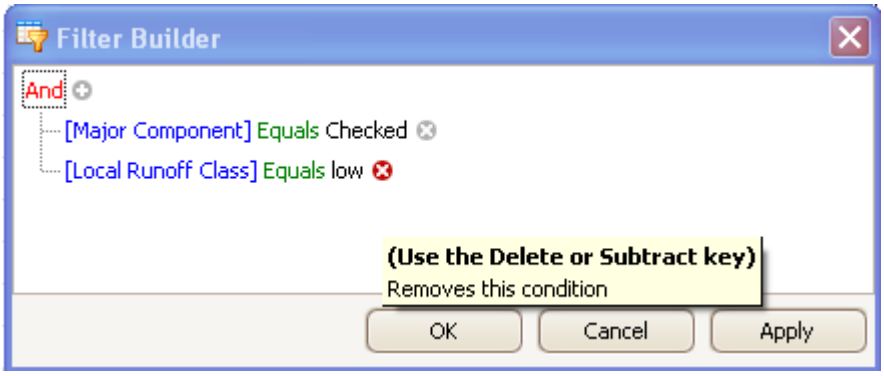
The most powerful filter is the editor it’s self. This editor can be opened by right clicking on the header and selecting “Filter editor” (see list above) or if you have already used the filter icon or the auto filter, the editor can be opened by choosing the “Filter Editor” located in the lower right hand corner of the editor panel.

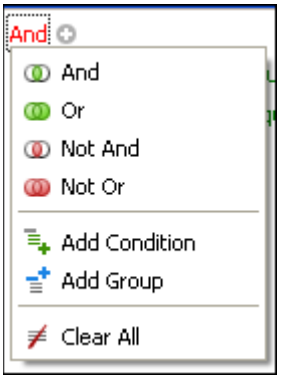
The Filter Editor allows tailoring of the filter to fit the user’s needs.

The Filter Builder allows the user to modify the filter by adding additional filter features or by changing the choices examples include

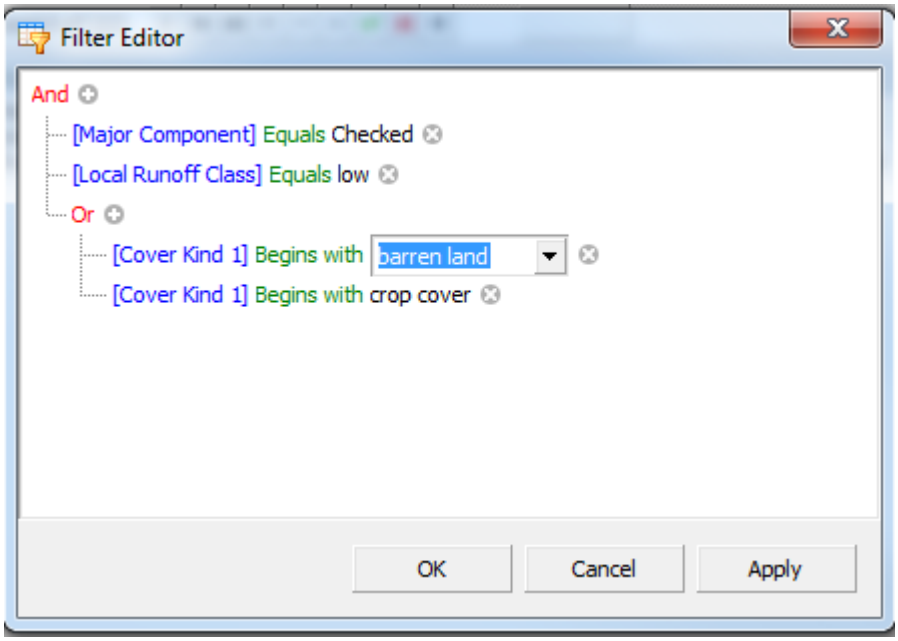
1. Change the selected column by left clicking on the blue text
2. Change the condition by left clicking on the green text
3. Change the filtered value by left clicking in the small parameter box and adding text
    a. If the column has a choice list the values can be picked from the domain list
    b. If the field is text or numeric the values can be typed in to the field.
4. Add a condition by clicking on the plus sign next to the red text
5. Add a new group by left clicking on the red text

In this example, the “And” can be changed using the choices in this list.
In addition, any column (Local Runoff Class), condition (Equals) or domain (Low) can be modified in the Filter Editor (Filter Builder).





In the example below a new group was added with an “Or” condition for cover kind 1. This filter would show only major components with low run off and either barren land or crop cover in the cover kind1.



A filter will remain in effect even if the table is closed and then later re-opened. Filters must be manually removed by the user.

Although a filter temporarily removes records from the selected set, reports work on the selected set, not the filtered dataset.

This completes the chapter on Understanding the Table Layout.